ABSTRACT

An example [[A]] spread spectrum communication system is provided in which a to control the signal amplitude variation so as to alleviate the requirement of the linearity on an the amplifier etc., thus allowing for use of a compact, low-cost and energy-saving transmitter. The transmission signal is separated into an the I-phase component and a the Q-phase component. In a complex spreading portion (301), spreading is performed by using multipliers (304 and 305) and adders (302 and 303) together with a sequence pattern of 1 and −1 appearing alternately. The outputs from the complex spreading portion (301) are modulated in multipliers (306 and 307) using pseudo-random sequences $PN^{(k)}(x)$ allotted for individual users. The baseband signal undergoes which underwent waveform shaping by roll-off filters and (308 and 309) is modulated through a carrier modulator (316), then sent to a power amplifier (315), where it is amplified and transmitted via an antenna (317).